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FORMOSAN ANTS COLLECTED BY DR. R. TAKAHASHI

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THE series of ants collected by Dr. R. Takahashi in Formosa, and recorded in the following pages, comprises fifty-three different forms. Forty-three of these have been previously cited from the Island, but all, with a single exception, have been taken in new localities. The remaining ten, listed below, represent significant additions to the Formosan fauna:

- Euponera* (*Trachymesopus*) *takahashii* sp. nov.
- Ponera* *perkinsi* Forel
- Myrmica* *rugosa* Mayr, var. *arisana* var. nov.
- Apbaenogaster* (*Deromyrma*) *takahashii* sp. nov.
- Crematogaster* (*Acrocoelia*) *laboriosa* F. Smith
- Monomorium* *nipponense* Wheeler
- Meranoplus* *bicolor* Guérin, var. *fuscescens* var. nov.
- Acantbomyrmex* *crassispina* sp. nov.
- Rboptryrmex* (*Acidomyrmex*) *rothneyi* Forel,
var. *taivanensis* var. nov.
- Polyrbachis* (*Cyrtomyrma*) *rastellata* Latr., var. ?

Family FORMICIDAE

Subfamily Dorylinae

Aenictus ceylonensis Mayr, var. **formosensis** Forel

Taihoku. Workers.

Subfamily Ponerinae

Ectomomyrmex sauteri Forel

Taihoku. Female.

✓✓ **Euponera (Trachymesopus) takahashii** sp. nov.= *sauteri**Female.* Length 3.8—4 mm.

Somewhat smaller and more slender than the female of *E. sauteri* Wheeler of Japan; head more rectangular, with the eyes distinctly larger and nearer the anterior border of the head. Antennal scapes thicker and distinctly shorter. Mesonotum more flattened; epinotum much more rectangular and less rounded in profile. Petiole shorter, with more antero-posteriorly compressed scale; the anteroventral projection of the petiole in the form of a translucent lamina, as in *sauteri*. Pilosity much less developed; head, thorax, scapes and legs without erect or oblique hairs; pubescence very fine, golden yellow. Color decidedly darker than in *sauteri*; head blackish brown; mandibles red; thorax and abdomen dark brown; petiole, thoracic sutures, borders of anterior gastric segments and whole of apical segments, as well as the antennae and legs, reddish brown. Wings distinctly and uniformly infuscated, with dark brown veins and pterostigma.

Described from five specimens, four from Riyohen (type locality) and one from Karenko.

Ponera perkinsi Forel

Taihoku. Workers.

Numerous workers agreeing so closely with typical specimens from Hawaii that I am unable to regard them as even varietally distinct.

Leptogenys (Lobopelta) diminuta F. Smith,
subsp. **palliseri** Forel

Botel Tobago. Workers.

Leptogenys (Lobopelta) kitteli Mayr

Kuraru, Urai and Shirin. Workers.

Subfamily Pseudomyrminae

Tetraponera allaborans Walker

Kagi and Hakumo. Workers.

Subfamily Myrmicinae

Myrmica margaritae Emery, var. **formosae** Wheeler.

Riyohen and Karenko. Workers.

Myrmica rugosa Mayr, var. **arisana** var. nov.

Worker. Differing from the typical form of the species from the Himalayas in being slightly more robust, with more pronounced mesoëpinotal impression, somewhat longer epinotal spines and a smooth dorso-median area on the postpetiole. The gaster is yellowish piceous, the legs and antennae also somewhat paler than in the typical form.

Five workers from Arisan.

***Aphaenogaster (Attomyrma) lepida* nom. nov.**

For *A. silvestrii* Wheeler, Oct. 22, 1929, preoccupied by *A. silvestrii* Menozzi, Aug. 6, 1929.

Botel Tobago, Urai, Domon, near Karenko, Riyohen and Shinten. Workers.

***Aphaenogaster (Deromyrma) takahashii* sp. nov.**

Worker. Length 5–6.5 mm.

Head oval, nearly one and two thirds times as long as broad, with rather small, moderately convex eyes situated very distinctly in front of its middle. Sides of head feebly convex and converging slightly toward the anterior border; behind the eyes converging much more decidedly to the occipital border which has a pronounced collar and forms the posterior

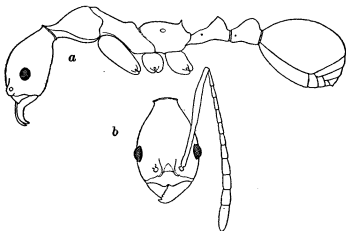


FIGURE 1. *Aphaenogaster (Deromyrma) takahashii* sp. nov.

Worker. a, body in profile; b, head of same, dorsal view.

border of the head. This border is about half as broad as the anterior border of the head, and there is a feeble indication of a neck-like constriction just in front of the collar. Mandibles rather short, with nearly straight external borders; the terminal borders with three large apical,

and several smaller and irregular basal, teeth. Clypeus short, longitudinally grooved in the middle; its anterior border broadly rounded, with a distinct median notch. Frontal carinae subparallel; frontal area large, subtriangular, impressed, with a median carinula. Antennae long and slender; scapes reaching fully two fifths their length beyond the occipital border of the head; funiculi with a four-jointed club; all the joints more than twice as long as broad. Thorax long and slender; pronotum longer than broad, narrowed anteriorly and scarcely convex above; mesonotum as long as the pronotum, slender and sloping, its dorsal surface in profile straight in the middle, with a slight convexity near the anterior end and a more pronounced one just in front of the epinotum. The latter is nearly one and one half times as long as broad, in profile with horizontal, feebly and evenly convex base, fully twice as long as the declivity, which is straight and perpendicular. Epinotal teeth small, scarcely longer than broad at their bases and erect. Petiole slender, its peduncle as long as the node, which is rather low and conical and only about half as high as the segment. Postpetiole from above regularly elliptical, nearly one and one half times as long as broad, its node in profile similar to that of the petiole but thicker and more rounded above. Gaster moderately large, oval, narrowed anteriorly. Legs long and slender.

Mandibles, head, thorax and pedicel subopaque; mandibles longitudinally rugulose and finely punctate; head and clypeus with similar sculpture, but the rugules are coarser, and more distinct on the preocular portions of the head and with a tendency to become reticulate near the occiput. Antennal scapes finely longitudinally rugulose. Thorax finely and densely punctate and obscurely and very finely rugulose, the rugules on the pro- and epinotum being transverse, those on the mesopleurae more distinct and longitudinal. Petiole and postpetiole more finely and more superficially punctate, so that the dorsal surface, especially of the postpetiolar node, is smoother and less opaque than the thorax. Gaster smooth and shining, microscopically and indistinctly punctate, with larger interspersed piligerous punctures.

Hairs pale yellow, short, obtuse, erect, moderately abundant and uniformly distributed on the body; appendages with much shorter, pointed, oblique hairs; clypeus with a fringe of long pointed hairs.

Mandibles, antennae, head and thorax ferruginous; mandibular teeth black; pedicel, gaster and legs dull yellow.

Described from five specimens taken by Dr. Takahashi at Botel Tobago. This is a true *Deromyrma*, though unlike the other Oriental species and most closely resembling the Neotropical *araneoides* Emery and *phalangium* Emery.

***Pheidole rhombinoda* Mayr, var. *formosensis* Forel**

Taihoku and Kagi. Soldiers, workers, females.

***Pheidole javana* Mayr, var. *dolenda* Forel**

Taihoku and Shinten. Soldiers, workers.

***Pheidole megacephala* Fabr.**

Pescadore. Workers.

***Pheidole rinae* Emery, subsp. *tipuna* Forel.**

Shinten: soldiers, workers. Taihoku: workers.

***Cardiocondyla wroughtoni* Forel, var. *obscurior* Wheeler**

Kagi. Workers, females.

This form was described from single worker and female specimens taken at Eisei, Formosa, by Silvestri. Dr. Takahashi's series consists of four workers and eight dealated females. The yellow parts of the body are somewhat paler and therefore more as in the typical *wroughtoni* of India, but the gaster is entirely dark brown and the petiole and postpetiole are smoother and slightly shining.

***Crematogaster (Acrocoelia) brunnea* F. Smith, subsp. *subnuda* Mayr, var. *formosae* Wheeler**

Taihoku. Workers.

Crematogaster (Acrocoelia) dohrni Mayr, subsp.
fabricans Forel

Taihoku, Shinten, Kagi and Botel Tobago. Workers, females.

Crematogaster (Acrocoelia) laboriosa F. Smith

Taihoku and Sekitei. Workers.

Crematogaster (Orthocrema) biroi Mayr

Taihoku. Workers, females.

Monomorium floricola Jerdon

Taihoku. Workers.

Monomorium latinode Mayr

Pescadore and Kuraru. Workers.

Monomorium minutum Mayr

Pescadore. Workers.

Monomorium nipponense Wheeler

Shinten. Workers.

Monomorium pharaonis L.

Taihoku. Workers, females.

Monomorium (Parholcomyrmed) destructor Jerdon

Shokwa. Workers.

Lophomyrmex quadrispinosus Jerdon, var. *taivanae* Forel

Riyohen. Females.

Pheidologeton diversus Jerdon, subsp. *fictus* Forel

Pescadore, Kagi and Karenko. Workers.

Pheidologeton yanoi Forel

Urai: soldiers, workers. Riyohen: soldiers, workers, males.

Male (undescribed). Length 7.5 mm.

Head small, broader than long, semicircularly rounded behind, with very convex eyes and ocelli. Mandibles small and narrow, two-toothed. Antennae less than half as long as the body; scapes more than twice as long as broad. Thorax broader than the head; epinotum shaped much as in the female, but without teeth. Petiolar node lower and less acute above in profile, the ventral surface of the peduncle unarmed. Postpetiole short, nearly three times as broad as long, with angulate anterior corners and subparallel sides, the latter not expanded below and sublamelliform as in the female. Gaster rather broadly elliptical, with large, spreading genital appendages. Wings short (7.8 mm.)

Shining; head and pedicel opaque, densely and finely punctate; thorax less densely punctate-aciculate; gaster somewhat coriaceous, with sparse, coarse, piligerous punctures.

Hairs and pubescence golden yellow, the former rather abundant, suberect on the body, much shorter, denser and more oblique on the appendages.

Black; mandibles, antennae, legs and genitalia brown. Wings rather strongly infuscated; veins and pterostigma resin-colored, with dark brown borders.

The male doubtfully described by Forel as belonging to this species is very different, and will have to be called *dentiviridis*, the

name he proposed for it in the event of its not belonging to *Pb. yanoi*. This male is much smaller (5.4–6.1 mm.) than that of *yanoi*, has four-toothed mandibles, much longer antennae, a narrower thorax, and a triangularly toothed epinotum. The coloration of the body and wings is also much paler. Perhaps *dentiviris* does not even belong to the genus *Pheidologeton*.

***Meranoplus bicolor* Guérin, var. *fuscescens* var. nov.**

Worker. Differing from the typical southern Asiatic *bicolor* in coloration, the head being black, the thorax, pedicel and appendages dark brown instead of ferruginous.

Two specimens from Pescadore.

***Acanthomyrmex crassispina* sp. nov.**

Worker. Length 3–3.5 mm.

Head subrectangular, distinctly broader than long, with straight, subparallel cheeks, pronounced anterior angles, broadly excised posterior border and somewhat rounded posterior corners. Eyes small, convex, hemispherical, at the middle of the sides of the head. Mandibles large, broad and convex, with the external borders straight in the middle, the terminal borders long and toothless, except for four or five rather indistinct apical denticles, the basal border concave in the middle but forming a right angle with the terminal border. Clypeus very short and transverse, with feebly and broadly concave anterior border, the upper surface with two median carinae, each terminating in a minute denticle at the anterior border. Frontal carinae widely separated and widely diverging posteriorly, forming the mesial borders of distinct scrobes for the basal two thirds of the scapes. Frontal area distinct, triangular. Antennae rather stout; scapes extending about one fourth their length beyond the posterior corners of the head; distinctly flattened, somewhat expanded and angulate basally, with a ridge on the outer side as far back as the middle of their length; first funicular joint nearly twice as long as broad, joints two to eight slightly longer than broad, the terminal joint as long as the two preceding subequal joints of the club. Thorax of the usual structure, but the two pairs of spines, one on the pronotum and one on the epinotum, as long as the height of the thorax, the former pair being somewhat shorter than the latter. Both pairs are stout, though the epinotal pair is more so, straight,

directed upward and outward and only very slightly bent backward at their tips, which taper rather rapidly and are not very acute. The epinotal spines are flattened and their anterior borders are distinctly ridged. Metasternal angles acutely dentate. Petiolar peduncle as long as the re-

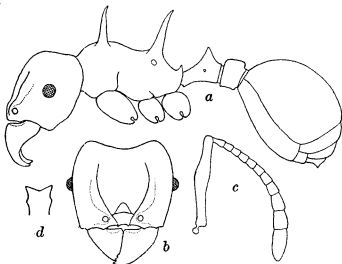


FIGURE 2. *Acanthomyrmex crassispina* sp. nov.

Worker. a, body in profile; b, head, dorsal view; c, antenna; d, petiolar scale, from behind.

mainder of the segment, the node cuneate in profile and acute above, its superior border rather deeply and angularly excised so that it forms two triangular teeth which are as long as broad at their bases. Postpetiole cuboidal; seen from above rectangular, slightly broader than the petiole, slightly longer than broad and distinctly broader behind than in front, with straight sides, its node in profile with flat dorsal and perpendicularly truncated anterior and posterior surfaces. Gaster broadly elliptical, convex above and below, with rather straight anterior border. Legs stout, the tibiae clavate, the femora thickened in the middle.

Shining; mandibles, legs and gaster more so than the remainder of the body. Mandibles smooth, very finely and obscurely coriaceous. Clypeus smooth in the middle between the carinae, coarsely rugose on the sides. Head covered with circular foveolae separated by coarse rugae which are regularly reticulate on the front and occiput but irregularly longitudinal on the cheeks. Antennal scrobes transversely rugulose. Pro- and mesono-

tum sculptured like the posterior portion of the head; mesopleurae with a few very coarse rugae, the short base of the epinotum with several finer longitudinal rugae, the declivity, spines and petiole smooth; postpetiole smooth above, coarsely reticulate-rugose on the sides; gaster, legs and scapes smooth and polished.

Hairs yellowish, very delicate, short, blunt, sparse and erect, confined to the head, thorax and scapes; clypeus and tip of gaster with a few longer, pointed hairs.

Head, thorax and funiculi ferruginous red; mandibles, scapes, thoracic spines, pedicel, gaster and legs brownish yellow; terminal borders of mandibles black.

Described from five specimens from Botel Tobago. This species is clearly different, especially in the character of the thoracic spines and petiolar node from any of the five previously described species of the rare and interesting Indomalayan genus *Acanthomyrmex*, namely *ferox* Emery of Perak and Sumatra, *luciolae* Emery of Ceylon, *notabilis* F. Smith from the island of Batchian, *dyak* Wheeler and *dusun* Wheeler from Borneo. It will be noticed that, with the exception of *ferox*, all of these species are known only from islands. The peculiar soldier form of *Acanthomyrmex* closely resembles that of *Pheidole*, but the enormous head projects backward over the thorax, which lacks the long pronotal spines of the worker.

***Pristomyrmex pungens* Mayr**

Suisha. Workers.

***Tetramorium guineense* Fabr.**

Taihoku. Workers.

***Rhoptromyrmex (Acidomyrmex) rothneyi* Forel, var. *taivanensis* var. nov.**

Worker. Length 1.5–1.8 mm.

Resembling the variety *longi* Forel, but smaller. Antennal

scapes not reaching to the posterior corners of the head. Promesonotal suture distinct, impressed; epinotal spines nearly as long as the base of the epinotum. Petiolar node from above sub-circular, as long as broad; postpetiole one and one half times as broad as long. In other respects like the typical *rotbneyi*.

Three specimens from Hakumo.

Subfamily Dolichoderinae

Dolichoderus (Hypoclinea) bituberculatus Mayr

Takeyama and Hakumo. Workers.

Iridomyrmex glaber Mayr

Pescadore. Workers.

Tapinoma melanocephalum Fabr.

Taihoku. Workers.

Technomyrmex albipes F. Smith

Kagi. Workers.

Subfamily Formicinae

Anoplolepis longipes Jerdon

Kagi and Botel Tobago. Workers.

Camponotus (Tanaemyrmex) carin Emery, var. **tipuna** Forel
Riyohen and Hakumo. Female.

Camponotus (Tanaemyrmex) friedae Forel
Pescadore, Byoritsu and Taihoku. Workers.

Camponotus (Tanaemyrmex) friedae, var. **amia** Forel
Pescadore. Workers.

Camponotus (Tanaemyrmex) habereri Forel
Taihoku. Workers.

Camponotus (Myrmamblys) itoi Forel, subsp. **tokioensis** Ito
Karapin: workers. Taihoku: females, males.

Polyrhachis lamellidens F. Smith
Taihoku. Workers.

Polyrhachis (Myrma) pyrgops Viehmeyer
Akeyama. Workers.

Polyrhachis (Myrmhopla) dives F. Smith, var. **euclides** Forel
Taihoku and Botel Tobago. Females.

***Polyrhachis (Cyrtomyrma) rastellata* Latr.**

Botel Tobago. Workers.

The legs are darker than in the typical form, so the specimens may, perhaps, represent a distinct variety.

***Paratrechina longicornis* Latr.**

Taihoku. Workers.

***Paratrechina (Nylanderia) bourbonica* Forel, var. *amia* Forel**

Taihoku. Workers, females, males.

***Paratrechina (Nylanderia) minutula* Forel, subsp. *sauteri* Forel**

Taihoku. Workers.

***Lasius niger* L.**

Funkiko. Workers, males.

***Formica fusca* L., subsp. *japonica* Motsch.**

Riyohen. Workers.